STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of the Advancement of Distributed Solar **Case 21-E-0629**

COMMENTS OF THE CLEAN ENERGY PARTIES; THE NEW YORK SOLAR ENERGY INDUSTRIES ASSOCIATION (NYSEIA), SOLAR ENERGY INDUSTRIES ASSOCIATION (SEIA), THE COALITION FOR COMMUNITY SOLAR ACCESS (CCSA), AND THE ALLIANCE FOR CLEAN ENERGY NEW YORK (ACE-NY)

Dated April 10, 2023

INTRODUCTION

On January 17, 2023 the New York State Energy Research and Development Authority issued the New York Sun Program – Mid Point Review ("MPR Filing") in accordance with the New York State Department of Public Service Commission's (PSC) Order Expanding the NY-Sun Program, Case Number 21-E-0629 (10 GW Order). On January 24, 2023 the PSC issued a Notice Soliciting Comments and Announcing Technical Conference. The New York Solar Energy Industries Association (NYSEIA), Coalition for Community Solar Access (CCSA), and Solar Energy Industries Association (SEIA), and the Alliance for Clean Energy New York (ACE-NY), hereafter referred to as the "Clean Energy Parties" or the "CEP", appreciate the opportunity to provide input on this matter, and we are pleased to provide the following comments in response to the MPR Filing in the above referenced proceeding.

As anticipated, progress towards meeting New York's 10 GW distributed solar goal established in the 10 GW Order has been rapid, triggering the Mid Point Review just over 7 months after the Order was issued. This rapid progress deploying solar demonstrates the immense potential of distributed solar to support progress toward the State's clean energy targets. As noted in NYSERDA's MPR filing, the Inflation Reduction Act, signed into law in August 2022, provided much needed certainty regarding the availability of the federal Investment Tax Credit.

The MPR Filing also correctly notes that the industry is facing significant challenges including rising equipment costs and supply chain constraints. The spring 2022 Anti-Dumping/Countervailing Duties (AD/CVD) trade case created widespread uncertainty, and current contemplation of H.J. Res. 39 invoking the Congressional Review Act could result in retroactive tariffs that could eliminate 30,000 good-paying US jobs and cancel 4 gigawatts of planned solar projects representing roughly 14% of the industry's anticipated deployment this year[1]. Further, the industry faces local challenges tied to siting, permitting and interconnection, all of which have increased the cost of developing solar energy projects in New York. Rising barriers to clean energy deployment make sustained, predictable compensation signals from the State more important than ever to ensure solar development in New York remains cost-effective and financeable as we work together to meet the targets set forth in the Climate Leadership and Community Protection Act (CLCPA). The NY-Sun Program continues to play a pivotal role counteracting these challenges and ensuring that New York is poised to make continued progress. The solar energy industry largely supports the Mid Point Review findings and recommendations, with additional recommendations for the Commission's consideration.

[1] SEIA. January 2023.

I. THE SOLAR INDUSTRY AGREES WITH MANY MPR RECOMMENDATIONS AS PROPOSED

The MPR Filing includes the following recommendations that the solar industry supports as proposed:

- **Provide NYSERDA flexibility to adjust the Con Edison Community Adder and Inclusive Community Solar Adder (ICSA) incentive rates specified in the 10 GW Order.** the CEP do not object to this recommendation, as it would afford NYSERDA the same flexibility currently authorized for all other NY-Sun adders. We support NYSERDA's stated intent to use this flexibility to maximize the impact of its Solar Energy Equity Framework (SEEF) funding as guidance becomes available for federal bonus tax credits, and encourage NYSERDA to consult with stakeholders and provide significant advanced notice before modifying incentive rates.

- **Authorize the removal of system production adjustments from the NY-Sun Commercial/Industrial incentive payment structure.** CEP The CEP support the recommendation to remove system production data as a prerequisite for incentive payments. Solar is a proven technology with reliable outputs. Additionally, as noted, the Value Stack compensation is structured to ensure high system performance making NY-Sun system production adjustments an unnecessary administrative step. The industry supports and appreciates the flexibility of retaining the phased option as proposed.

II. THE SOLAR INDUSTRY AGREES WITH MANY MPR RECOMMENDATIONS, WITH ADDITIONAL MEASURES FOR CONSIDERATION

The solar energy industry supports the following recommendations and urges consideration of additional measures to further expand on the existing proposal:

- **Provide authorization to expand the current offering of Beneficial Siting Adders for a Floating PV Adder.** The CEP support this recommendation. We applaud NYSERDA for encouraging alternative and beneficial PV siting, which helps expand the total addressable market and addresses land use concerns. We encourage NYSERDA to develop clear guidelines for qualifying for the Floating PV adder, informed by stakeholder input. The CEP and our member companies look forward to engaging with NYSERDA staff on determining workable and robust criteria. We also appreciate NYSERDA's continued exploration of an agrivoltaics adder or program to support providing agricultural benefits and uses co-located with solar projects. We support the continued work with the

Agricultural Working Group, though we urge a quick resolution to supporting this segment of solar with great importance to New York's climate and clean energy commitments as well as to the state's important agriculture industry and legacy. An agrivoltaics adder should be prioritized as an important means to ensure distributed solar can address the needs of rural communities and landowners. The parking canopy adder in Con Edison territory is also a valuable incentive that promotes beneficial siting, and we encourage NYSERDA to explore the feasibility of expanding this adder to other parts of the State.

- **Authorize change in the eligibility for the Prevailing Wage Adder approved in the 10 GW Order as described in the Mid Point Review**. The CEP support the proposed Prevailing Wage eligibility expansion, which will ensure that appropriate support is made available to all projects seeking to pay prevailing wages in New York, whether or not they are subject to the Prevailing Wage requirement established in the 10 GW Order. This is a practical measure aimed at meeting the objective of growing well-paying jobs alongside clean energy in the State. Further, as noted by NYSERDA, the cost of labor continues to increase due to demand and inflation making the prevailing wage adder an essential component of the NY-Sun program's ongoing success. We also support the City of New York's prior recommendation that the Prevailing Wage (PW) adder be available for the subset of public works projects that require PW even if they are below 1 MW-AC.

- **Amend the rules set in the Consolidated Billing Order to allow multiple Net Member Credit rates within a single CDG project.** The CEP support this MPR Filing recommendation, which will allow CDG project developers to offer deeper bill discounts to more low-income subscribers sooner. The PSC's 2019 Consolidated Billing Order notes that "The net crediting model will facilitate the inclusion of low-income customers in the CDG program and ensure that participating low-income customers will benefit." The CEP strongly agree with the Commission that net crediting eliminates barriers to participation for low-income subscribers by allowing customers to subscribe and receive guaranteed savings without changing their bill payment method. Net crediting also eliminates soft costs and reduces real and perceived nonpayment risk for CDG developers, particularly for projects serving low-income customers.

  However, the Inclusive Community Solar Adder (ICSA) rules require minimum savings for low-income customers ranging from 10-20% depending on the project type/location, whereas market conditions may not allow for the same discount rates for other residential and commercial subscribers, creating a need for projects to offer multiple discount rates. We support NYSERDA's ICSA program design that affords deeper savings to low-income subscribers, but share their concern that offering multiple discount rates is currently incompatible with the utilities' single-discount net crediting program. Allowing a project to offer two to three net crediting discount rates would support the success of the ICSA

program, maximize low-income participation and benefit, and provide sufficient flexibility for developers to optimize customer mix while limiting administrative burden on the utility companies managing net crediting. Between the federal Bonus Investment Tax Credit guidance and pending ICSA relaunch, time is of the essence. We encourage the Commission to establish a near-term deadline (e.g. 90 days) for the utilities to enable multiple net-crediting discount rates.

The CEP also strongly agree with the MPR Filing assertion that "effective CDG billing and crediting remains a major concern and potential barrier for the continued success of the State's nation-leading community solar market". New York's investor-owned utilities have continued to fall short of their obligation to provide community solar customers with timely and accurate solar energy credits on their utility bills. CDG billing and crediting is relatively simple, and the utilities' failure to fulfill their obligations to community solar customers threatens to undermine customer trust and impede New York's ability to achieve its ambitious clean energy and equity goals. We strongly support the PSC's efforts to establish and enforce performance metrics, performance standards and Negative Revenue Adjustments. We also encourage the PSC to strengthen these efforts by imposing near-term deadlines for the utilities to catch up on CDG crediting, which is still severely delayed for thousands of customers.

- **Differential incentives for community solar are critical.** Price signals and incentives that encourage CDG, including the "Market Transition Credit", "Community Credit", and most recently the "Community Adder," were pivotal to New York's ascent as the nation's leading community solar market. Thanks to the availability of the Community Adder, CDG was the dominant form of solar capacity developed between the 10 GW Solar Roadmap Order and the Mid-Point Review, particularly Upstate. As noted in the MPR Filing, the Community Adder has not been available to CDG projects for several months as federal guidance on the Inflation Reduction Act was pending. This pause has created additional uncertainty for projects navigating a series of new market dynamics. The CEP greatly appreciate that NYSERDA has released an updated proposal for the ICSA and plans to make both the ISCA and the Community Adder available shortly. Relaunching these CDG incentives as soon as possible is important to restore a strong and stable CDG market that can continue contributing toward New York's 10 GW goal. The Community Adder and ICSA are also needed to ensure that a meaningful portion of New York's future solar capacity provides direct bill savings to New Yorkers who cannot otherwise participate in and benefit from clean energy.

III. THE SOLAR INDUSTRY DISAGREES WITH THE MPR RECOMMENDATION TO MAKE NO CHANGES TO THE VALUE STACK

Value Stack improvements are needed to more accurately compensate clean distributed energy resources (DERs) and to support a long-term sustainable market for clean DERs that extends well beyond 10 GW. While we agree with NYSERDA that the MPR may not be the appropriate venue to make immediate Value Stack changes, improving the Value of Distributed Energy Resources (VDER) tariff to more accurately and completely compensate clean DERs for the value provided to the electric system, environment, and ratepayers remains a high priority to the industry as we plan for long-term growth. We urge the Commission to reengage on this critical topic.

As documented in previous comments, including in the Clean Energy Parties (CEP) response[2] to the publication of the "10 Gigawatt Distributed Solar Roadmap: Policy Options for the Continued Growth in Distributed Solar,"[3] the industry strongly supports reconvening the Value Stack Working Group to consider proposals for VDER tariff improvements. Given the rapid uptake of the expanded NY-Sun allocations, which triggered the Mid Point Review, it is reasonable to expect that the current program will be fully allocated quickly. To ensure the continued development of the distributed generation projects needed to reach New York's carbon reduction targets, it is essential that we begin planning now for solar deployment beyond the NY-Sun 10 GW goal. Planning ahead will allow the State to avoid delays and market uncertainty. For the avoidance of doubt, NY-Sun incentives remain foundational to the solar industry, and industry anticipates it will take several years before VDER improvements could enable sustained solar development for certain market segments without incentives. We consider these complimentary efforts.

In the Mid Point Review, NYSERDA recommends making no changes to the Value Stack at this time, stating that "DPS and NYSERDA concluded in the Solar Roadmap, and reiterate here, that a NYSERDA-administered incentive program allows greater flexibility and adaptivity than an adjusted E Value, while protecting ratepayer dollars."[4] The industry still asserts that a more accurate reflection of the value of solar and storage, through an adjusted Environmental ("E") Value along with improvements to the Demand Reduction Value (DRV) and Locational System Relief Value (LSRV) and the inclusion of avoided long-run transmission costs within the Value Stack – would support a more robust, resilient, long-term sustainable market for clean DERs in New York State. Accurately valuing the contribution of clean DERs is critical, and could enable New York to identify optimized pathways to achieve its decarbonization goals.

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[2] Clean Energy Parties, "CEP Comments on 10 GW Roadmap", March 7, 2022.

[3] New York State Energy Research and Development Authority, New York State Department of Public Service, "10 Gigawatt Distributed Solar Roadmap: Policy Options for the Continued Growth in Distributed Solar," December 17, 2021.

[4] New York State Energy Research and Development Authority, New York State Department of Public Service, New York Sun Program - Mid Point Review, Pg. 16, January 17, 2023.

The above notwithstanding, if the Commission does not intend to revisit Value Stack improvements, it is critical that we start planning now for continued solar deployment in the State following the depletion of the current NY-Sun program funding to ensure market continuity and progress toward New York's climate and clean energy goals. We recommend proactive measures to counteract rising costs (detailed below) Statewide, and to prevent any "incentive cliffs", particularly for the nonresidential market in Con Edison territory due to the sector's reliance on significant capacity-based incentives since the 10 GW Roadmap Order[5].

IV. THE SOLAR INDUSTRY IS FACING SUPPLY CHAIN DELAYS, INFLATION, AND RISING INTERCONNECTION COSTS

Inflationary pressures, supply chain issues, and rising interconnection costs present ongoing challenges for solar project development in New York, threatening to slow deployment if not addressed. the NY-Sun program provides New York with an important counterweight to mitigate the impact of these challenges. Industry encourages NYSERDA, DPS and the Commission to consider these rising costs as incentive levels and program expansion are considered.

Solar and storage equipment shortages paired with high costs due to inflation have plagued the industry for the past three years and continue to pose a challenge. Solar companies that operate in New York report six- to twelve-month lead times on critical equipment, including solar panels, transformers, reclosers, and AC panel boards. According to the Solar Market Insight 2022 Year in Review, for the first time since Wood Mackenzie began modeling solar system price data in 2014, year over year prices increased across all market segments for seven consecutive quarters.[6] In addition, a Congressional Review Act resolution under consideration right now could result in retroactive import tariffs on solar equipment, an outcome that could cause 4 gigawatts of solar project cancellation, representing roughly 14% of the industry's anticipated deployment this year[7].The MPR Filing acknowledges these price increases, noting that "during the review period,

[5] In the 2022 10 GW Solar Roadmap Order, the Public Service Commission authorized NYSERDA to offer significant capacity-based incentives for nonresidential solar projects in Con Edison territory. These incentives were largely intended to replace the Community Credit, valued at $0.12/kWh, which was fully allocated in October 2021, at which point the per kilowatt hour value of community solar was reduced by more than 50%. The availability of significant capacity-based incentives in Con Edison territory did mitigate the impact of reduced VDER compensation, however, industry is concerned that the current dependence on these capacity-based incentives could create an "incentive cliff" in the next 12-18 months. We encourage NYSERDA to provide greater visibility into future NY-Sun incentive blocks and to allocate funding as needed to avoid any incentive cliffs. It's possible that this could be achieve through additional NY-Sun funding or improved VDER compensation for clean DERs located in the Downstate Region, where the grid is heavily reliant on fossil-fuels.

[6] SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market Insight 2022 Year in Review.

[7] SEIA. January 2023.

overall costs for Upstate C/I projects trended upward by approximately $0.20-$0.30/Watt, and between $0.30-$0.70/Watt for Nonresidential projects in the Con Edison service territory[8]."

Over the past two years the cost to finance solar projects has increased considerably as well. Project cash flows that previously could flow to the project owner and support a reasonable return now have to be diverted to higher and higher interest payments on debt used to finance the projects. This knock-on effect increases the total cost to develop and build projects, making previously feasible projects unprofitable and slowing overall deployment.

Siting and Permitting Challenges

Developers are facing longer permitting timelines throughout the state as well as challenges linked to solar moratoriums and other restrictions on development, making it harder to bring projects online. While the solar industry is accustomed to navigating and abiding by local solar zoning and permitting requirements, some municipalities are weaponizing their zoning and building codes in a manner that threatens New York's progress toward its clean energy goals. For example, the Niagara County "recycling law" effectively bans solar development/installation in an entire county. These unreasonable restrictions and bans are resulting in otherwise viable projects being cancelled or never developed, infringing on the rights of local property owners while forcing solar projects into a narrower geography, thereby driving up lease prices and saturating the grid in these areas.

Increasing Interconnection Costs

Interconnection has been a major driver of recent project cost increases, and unfortunately, cancellation. Industry appreciates NYSERDA's acknowledgement of rising interconnection costs and decreasing headroom on the system in the MPR Filing, as well as the difficulty of assessing typical interconnection costs when such costs may be a driver of attrition. Industry analysis of recent interconnection queue data suggests that CESIR costs have risen sharply over the course of the past year, and that the number of projects that can move forward with making their interconnection deposits is shrinking relative to previous years. Both trends are concerning, and threaten to impede progress toward New York's 10 GW distributed solar goal. Cost Sharing 2.0 and the launch of the Coordinated Grid Planning Process (CGPP) are both important steps toward ensuring that clean energy projects can continue to interconnect to the electric transmission/distribution system in a timely and affordable manner, however Cost Sharing 2.0 has not mitigated increased project attrition, and industry is concerned that the CGPP may not be fast/responsive enough to create hosting capacity when and where it is needed to increase deployment and enable continued progress.

The MPR Filing includes the average interconnection cost for projects that are moving forward, however, it does not include the cost of cancelled projects. Analysis that focuses solely on the

[8] New York Sun Program - Mid Point Review, Pg. 11, January 17, 2023.

subset of viable projects introduces significant selection bias, and the solar industry urges NYSERDA and the Commission to consider CESIR results for cancelled projects as well when estimating interconnection costs and determining appropriate incentive/compensation levels for clean DERs. NYSEIA, via the Interconnection Policy Working Group, has requested that the Joint Utilities include purged/cancelled projects in the public SIR Inventory to enable stakeholders to analyze more complete data regarding interconnection costs. DPS staff indicated that such data will be publicly available in the near future. In the meantime, the Clean Energy Parties retained consultant Sustainable Energy Advantage, LLC (SEA) to reconstitute the SIR Inventory database to include records purged for queue withdrawal as far back as December 2019. SEA's analysis demonstrates that average interconnection costs are significantly higher for cancelled projects.

SEA Reconstituted SIR Database $/kW "Estimated Costs by Utility" Summary Statistics for Solar Only Projects (Preliminary)[9]

Utility	Metric	Current SIR >= 500 kW	Purged SIR >= 500 kW
CHG&E	Sample Observations	97	29
CHG&E	Mean	$165.6/kW	$1,001.4/kW
CHG&E	Statistically Different Means	Yes, at two-tailed test	
ConEd	Sample Observations	70	25
ConEd	Mean	84.9	181.5
ConEd	Statistically Different Means	Yes, at two-tailed test	
NGrid	Sample Observations	782	267
NGrid	Mean	245.2	652.7
NGrid	Statistically Different Means	Yes, at two-tailed test	
NYSEG / RG&E	Sample Observations	435	250
NYSEG / RGE	Mean	196.7	529.0
NYSEG / RG&E	Statistically Different Means	Yes, at two-tailed test	
O&R	Sample Observations	83	15
O&R	Mean	185.5	269.6
O&R	Statistically Different Means	Yes, at one-tailed test	
PSEG-LI	Sample Observations	17	6
PSEG-LI	Mean	184.8	554.8
PSEG-LI	Statistically Different Means	No	

[9] Sustainable Energy Advantage, LLC, Analysis of NY SIR Database Interconnection Costs, Table 1, April 7, 2023.

Analysis based on SEA's preliminary interconnection cost data **analysis** for cancelled/purged Commercial & Industrial (C&I) projects >500 kW-AC (an approximation of 750 kW-DC) found **a** weighted average interconnection cost **across utilities** of $0.59/Watt-AC[10]; 2.74X greater than the interconnection cost of C&I projects that moved forward, and 5X the 2022 cost estimate that was included in the MPR Filing. The cost difference between current and purged C&I projects in the SIR Inventory was found to be statistically significant for all utilities except for PSEG-LI, which had a small sample size. While there is likely a subset of projects that cancelled for reasons other than interconnection costs, and some projects are simply not economically viable, these results demonstrate that interconnection costs are much higher than previously understood, and high interconnection costs are a frequent cause of cancellation.

A similar conclusion can be drawn from Cost Sharing data. The table below is a snapshot of active cost sharing projects in National Grid and Avangrid/NYSEG territory (March 2023). Identified projects would require a large number of transformer and line upgrades with significant upgrade costs. Of these proposed projects, only 15% of those with transformer upgrades required and 12% with line upgrades required mobilized in NYSEG territory while zero transformer upgrades were mobilized in National Grid territory. Average costs of identified transformer and station upgrades significantly exceed the average 2022 interconnection costs cited in the MPR Filing[11], and it's important to note that projects encounter non-shared costs in addition to these shared costs.

National Grid	Upgrade Stage	Average $/kw	No. of upgrades
3V0 upgrades	Identified	$53.53	49
	Mobilized	$51.27	21
Transformers	Identified	$451.49	23
	Mobilized	NA	0
Station (other)	Identified	$177.06	35
	Mobilized	$19.74	8

NYSEG	Upgrade Stage	Average $/kw	No. of upgrades
3V0 upgrades	Identified	$83.53	53
	Mobilized	$53.17	20
Line upgrades	Identified	$265.40	26
	Mobilized	$42.76	3
Substation transformers	Identified	$422.24	19
	Mobilized	$140.02	3

[10] NYSEIA staff calculated this weighted average by: 1) multiplying each utility's Sample Observations by the Sample Mean to calculate total cost by utility/category; 2) summing all the utility interconnection cost values; and 3) dividing this figure by the sum of the Sample Observations across all utilities.

[11] New York State Energy Research and Development Authority, New York State Department of Public Service, "New York Sun Program – Mid-Point Review", Pg 14, January 17, 2023.

While Cost Sharing 2.0 has significant potential to accelerate clean DER development, success to date has been limited, as demonstrated by the small number of projects mobilized in the table above. Industry has proposed a number of modest improvements to Cost Sharing via the IPWG, such as: extending the due date of the Cost Sharing 2.0 deposit to enable developers to make payment once zoning approval is known; allowing Cost Sharing deposits to be refundable up until a mobilizing threshold; and allowing the use of letters of credit in lieu of cash for higher cost grid upgrades. These improvements will not decrease interconnection costs for developers, but will make them more feasible.

Expanding hosting capacity and improving Cost Sharing are critical to the sustained growth of New York's distributed solar market. To date, most utilities have not adopted the 10 GW Roadmap recommendations to make "distribution investments that expand hosting capacity in line with the Incremental 4 GW Target at locations of high distributed solar market interest in future utility Capital Investment Plans[12]". This lack of action has heightened the urgency for market signals to drive immediate investment in the near term. CGPP and distribution planning investments can provide a long-term solution for grid expansion, however, these solutions will take years to implement. For the State to enable distribution grid expansion in the near-term, Cost Sharing is the only viable tool available to enable continued DER deployment.

We encourage the Commission to consider expanding Cost Sharing to support more proactive, equitable distribution of grid investments as the utilities plan for load growth and expanded clean energy generation. Industry believes this can be an efficient way to create additional hosting capacity when/where it is needed. Finally, we encourage the Commission and NYSERDA to consider true interconnection costs, inclusive of cancelled projects, as it determines appropriate incentive levels and considers additional NY-Sun funding and/or VDER improvements.

CONCLUSION

The Clean Energy Parties appreciate NYSERDA, DPS and the Commission for its continued investment and support for distributed solar. The rapid achievement of the Mid Point Review trigger is encouraging, and demonstrates the potential for distributed solar. However, rapid progress cannot be taken for granted, and proactive measures are needed to address rising costs and hosting capacity constraints. The NY-Sun program is foundational to New York's vibrant solar market, and can serve as an important bulwark against these rising costs. In addition to continuing to support and strengthen the NY-Sun program, we encourage the Commission to begin planning for a sustainable distributed solar market that extends well beyond 10 gigawatts. Specifically, we

[12] New York State Energy Research and Development Authority, New York State Department of Public Service, "10 Gigawatt Distributed Solar Roadmap: Policy Options for the Continued Growth in Distributed Solar," Page 13, December 17, 2021.

encourage the Commission to reconvene the VDER Working Group to consider Value Stack improvements and to advance Cost Sharing improvements. We appreciate the opportunity to provide input and look forward to working in partnership with NYSERDA, DPS Staff and the Commission to achieve our ambitious clean energy goals in the years ahead.